



CONSULTANCY - TERMS OF REFERENCE

Title: Scaling Strategy Consultancy – Data Integrator Tool and Drought Monitoring System for Climate-Resilient WASH

Division: UNICEF Sustainable WASH Innovation Hub, Copenhagen, Denmark

Duration: Six months

Duty Station: Remote

Advertising summary

The UNICEF Sustainable WASH Innovation Hub ('the Hub') is accelerating the scaling of the transformative water, sanitation and hygiene (WASH) innovations for vulnerable children and their families, and strong collaboration is at the heart of this mission. As part of our approach, the WASH Hub sources, pilots and scales transformational climate-resilient solutions that respond to key programmatic challenges that, if solved, will unlock faster progress for a water-secure future for children and young people.

In March 2025, the WASH Hub issued a second call for submissions to expand its innovation portfolio with transformative solutions that address systemic challenges in the WASH sector. One of the priority problem statements identified under this call focused on improving access to climate-sensitive data for WASH programming. A promising approach to integrate satellite data, ground-based observations, and water infrastructure information into a centralized, user-friendly platform was identified for cocreation into a solution. The approach would integrate with existing data platforms, utilizing a data integrator tool to connect with existing global and national databases, and localized WASH infrastructure data, ensuring near real-time synthesized information for direct use in WASH programming.

For this work, the Consultant will support the WASH Hub by developing and detailing a scaling pathway, approach and key considerations for taking the solution further and supporting uptake at multi-country and multi-region scale to ensure integrated monitoring for Climate-resilient WASH. The scaling pathway is a structured approach that outlines the steps, strategies, and choices for expanding a proven innovation so it can reach a larger population and achieve sustainable impact over time.

Child Safeguarding

Is this project/assignment considered as "Elevated Risk Role" from a child safeguarding perspective?

YES NO

If YES, check all that apply:

Direct contact role YES NO

If yes, please indicate the number of hours/months of direct interpersonal contact with children, or work in their immediately physical proximity, with limited supervision by a more senior member of personnel:

Child data role YES NO

If yes, please indicate the number of hours/months of manipulating or transmitting personal-identifiable information of children (name, national ID, location data, photos):

More information is available in the [Child Safeguarding SharePoint](#) and [Child Safeguarding FAQs and Updates](#)

UNICEF works in some of the world's toughest places, to reach the world's most disadvantaged children. To save their lives. To defend their rights. To help them fulfill their potential.

Across 190 countries and territories, we work for every child, everywhere, every day, to build a better world for everyone.

And we never give up.

For every child...innovate

UNICEF has a 70-year legacy of innovation for children. From its base in Copenhagen, the Sustainable WASH Innovation Hub (the Hub) identifies, demonstrates and scales climate-resilient water and sanitation solutions that can accelerate progress toward a water-secure future for children and young people. Working with partners and UNICEF country and regional teams, the Hub selects high-impact, cutting-edge innovations, adapts them to context, and expands proven solutions from helping thousands in one country to reaching millions across multiple regions through an annually reviewed WASH portfolio focused on the greatest challenges and opportunities for impact.

How can you make a difference?

The role of the Hub is to develop pathways to scale for innovative solutions. The purpose of this consultancy is to develop a comprehensive Scaling Strategy for a Data Integrator Tool defining the vision, model, roadmap, and partnerships required to scale the solution from demonstration countries to sustained implementation across multiple contexts. This should be a structured approach that outlines the steps, strategies, and choices for expanding the solution so it can reach a larger population and achieve sustainable impact over time.

The pathway is not a single, fixed route but rather a sequence of stages and decisions that adapt to changing contexts and challenges as the innovation grows. The strategy will demonstrate success, build evidence, address local challenges, foster partnerships, enable policy, ensure economics, replicate models, and iterate based on feedback to outline the approach to be scaling a proven solution as a robust, sustainable water management innovation.

This Terms of Reference (ToR) is for an individual to support strategy development for a Data Integrator tool that enables real-time data collection, integration, and exchange across satellite data, ground-based measurements, water infrastructure information and automatic data loggers. The Data Integrator will support interoperability with existing and new data sources in line with Digital Public Goods principles.

As part of the consultancy, it is expected that the different use cases for the data the tool integrated be identified, including drought prediction.

While this ToR requires an integrated approach, the strategy, assessments, and roadmap will explicitly consider the technical, governance, capacity, and sustainability requirements of each component to support flexible adoption, integration with national systems, and long-term public ownership across different country contexts.

The scaling strategy needs to:

1. Assess Existing Data Integrator Systems

The consultant will evaluate existing tools to understand their technical design, data integration capabilities, and real-world use, while also identifying technological, institutional, financial, and governance gaps that could limit scalability.

It includes assessing alignment with UNICEF's Digital Public Goods principles and determining the support and resources required for long-term sustainability. Additionally, the consultant will conduct a market scan of available and emerging solutions, mapping key actors, and performing a cost-benefit analysis to determine their value for UNICEF's Climate Resilient WASH portfolio and the wider sector use, while also identifying technological, institutional, financial, and governance gaps that could limit scalability.

2. Define the scaling pathway and business model

The consultant will define a clear vision for scaling at global, regional, and country levels, outlining governance functions, and identifying key partners across government, research, NGOs, and the private sector with clearly defined roles.

They will determine the most suitable scaling model and the institutional and policy conditions needed for national adoption, as well as recommending financing options such as public funding, cost sharing, service-based models, or blended finance. They will assess how the system can be integrated into national or regional water management and early warning platforms, and identify any enabling infrastructure required where these systems are not yet in place.

As part of this work, the consultant will identify and describe use cases for the data-integration tool, including how it could support the development of a drought-prediction tool, as well as any additional potential applications.

3. Develop a 3–5 Year Implementation and Investment Roadmap

The consultant will identify priority technical, institutional, capacity, and financial actions needed for short, medium, and long-term scaling, while proposing criteria for selecting focus countries or regions. They will estimate the resources required across each phase of the roadmap and setting indicators to monitor adoption, performance, and impact. The consultant will also identify essential partnerships, training mechanisms, and knowledge sharing platforms to build national ownership, outline key risks with mitigation strategies, and integrate lessons from demonstrations in

Madagascar and Angola—especially those related to usability, data accuracy, and operational reliability.

4. Recommend partnership and engagement modalities

The consultant will outline secure and efficient ways to integrate the solution into UNICEF and government data systems, supported by strong data governance frameworks that ensure interoperability, privacy, accessibility, and long-term stewardship. They will identify partnership structures that uphold innovation, accountability, and sustainability across multiple countries, along with recommending global or regional coordination mechanisms to manage updates, maintenance, user support, and ongoing solution evolution for smooth deployment across contexts.

This consultancy is intended for an individual to deliver, informed by the WASH Hub technical team.

The consultant's main responsibilities will be:

1. Desktop Review and Situational Analysis of solutions for Data Integration

- Evaluate data integration systems and analyze how effectively they combine satellite, in-situ, and infrastructure data; identify technical or data quality gaps.
- Map relevant actors, systems, and initiatives and engage with UNICEF country offices, government counterparts, utilities, groundwater monitoring networks and end-users to assess usability, data accuracy, and operational reliability.
- Conduct a detailed assessment of the current/ existing system designs, capabilities, and evaluate the UNICEF supported demonstration in Madagascar and Angola and any other relevant identified countries.
- Assess data governance, interoperability, and alignment with UNICEF's Digital Principles, Digital Public Good standards¹, Procurement Procedures² and broader organizational strategies on climate resilience³ and data governance⁴.
- Identify barriers and enablers for scaling (e.g., technical infrastructure, institutional ownership, human capacity, cost structure, policy environment).

2. Define the Scaling Vision and Model for global adoption

- Develop a clear vision and strategy for scale, describing how the solution will move from proof of concept (in country demonstration) for data integration to scale, sustainable adoption and integration into different use cases.
- Identify enabling policy conditions, outlining institutional and policy requirements for adoption by national governments, and integration into national information management and early warning systems.
- Define target users, countries, and institutional partners for scale
- Identify potential scaling pathways e.g. UNICEF-led, partner-led, government-led and hybrid models — based on contextual readiness and comparative advantages.

¹ Principles for Digital Development: <https://digitalprinciples.org>

² UNICEF Procurement Policies (Supply Division): <https://www.unicef.org/supply/procurement-policies>

³ Sustainability and Climate Change Action Plan (2023–2030): <https://www.unicef.org/documents/sustainability-climate-change-action-plan>

⁴ UNICEF Data Governance Frameworks: <https://data.unicef.org/resources/data-governance-fit-for-children/>

- Propose sustainable business models, including options for public financing, donor support, and private sector engagement.

3. Develop the Implementation Roadmap to guide the technical, operational, and institutional steps required for scale-up

- Outline short-, medium-, and long-term milestones for scaling, defining the associated timelines (e.g., system refinement, pilot expansion, integration with national platforms).
- Prioritize geographies for scale-up and identify countries or regions where the solution scaling would have the highest impact and feasibility.
- Liaising with the Monitoring & Evaluation (M&E) focal for the Hub, develop a monitoring framework, defining indicators for tracking adoption, performance, data utilization, and impact for both the data integrator tool and drought monitoring system.
- Identify key risks (technical, political, financial, operational etc.) and propose mitigation measures and monitoring mechanisms.
- Outline data governance, open data integrator, and interoperability frameworks to enable integration with national and regional systems.

4. Develop a scaling strategy to scale the solution into multiple countries and regions to rapidly reach maximum impacts, including identifying risks mitigation approaches.

As part of the strategy identify priority countries and contexts for scaling. Prioritization could be based on, but not limited to: enabling conditions/environment; programme entry points; evidence gaps with a need to demonstrate a solution(s) to specific challenges and or contexts; capacity to scale and process to do so; case studies; likely funding needs to drive momentum and potential donors (either at individual country level, or across sub-regions/ contexts depending upon donor priorities).

As part of the inception report, the logic for prioritization will be agreed with the WASH Hub team and will outline rational for country prioritization, approach to adoption, proposed KPIs and other relevant factors for country identification. The strategy should go beyond targeting and prioritization of countries/ regions to develop a full strategy that outlines how to use the necessary information to produce resources that:

- i. Demonstrate Technical Feasibility and Effectiveness
- ii. Document and Share Evidence
- iv. Build Capacity and Partnerships
- v. Develop Enabling Policies and Regulations
- vi. Ensure Economic Viability
- vii. Scale Through Replication and Adaptation
- viii. Monitor, Evaluation and Iterate.

As a result of the above the scaling strategy will:

- provide strategies for identifying and engaging key stakeholders,
- identify and address key challenges and gaps in countries,
- identify approaches in-country to support uptake
- identify key opportunities and entry points for scaling

5. Identify and outline what is needed in deployment packages to:

- To facilitate uptake and adoption into new contexts and countries, define contents of deployment kits considering the tools and the purpose that make up the toolkit.

- Outline how countries access support and resources (technically and financially) and how this relates to the format of the toolkit (i.e. live database of resources, funding strategy for scaling, etc.)
- Outline any further demonstration projects or evidence that may be required.
- Identify types of materials for different decision makers to make informed decisions on uptake and provide key information for inclusion in proposals.

Deployment packages must include comprehensive Data integration guidelines, sample code, endpoints, and templates for government data-sharing agreements, in addition to the technical and operational resources required for local adaptation and scale-up.

6. Identify and describe use cases for the data-integration tool

- Map and define priority WASH-relevant use cases grounded in country needs and sector gaps, including how integrated satellite, in-situ, and infrastructure data can address decision-making challenges across climate-resilient WASH programming (e.g., groundwater monitoring, asset performance, early warning, and planning).
- Detail the drought-related use case, illustrating how consolidated datasets from the integrator tool can improve prediction accuracy, trigger thresholds, and early action decision-making; outline current limitations and how the data Integrator strengthens existing drought monitoring or early warning systems.
- Identify additional cross-sector and multi-country applications beyond drought prediction—such as climate risk screening, flood or water scarcity early warning, water service reliability tracking, anomaly detection, or infrastructure investment planning—highlighting where improved data interoperability could unlock new capabilities or efficiencies.
- Describe user groups, workflows, and data dependencies for each use case, including government agencies, utilities, groundwater networks, UNICEF teams, and partners; specify how each group would interact with the integrated data, the decisions it supports, and any enabling policies, governance requirements, or capacity conditions.

7. Capacity development. Carry out stakeholder mapping and identify what skills/ capacity are likely to be required to support scaling into new countries and indicative support for suppliers. Outline key actors, roles and responsibilities.

Description of assignment

Detailed responsibilities / deliverables:

	Deliverables/ Outputs	Tasks	Delivery deadline	% of payment
1	Deliverable 1: Inception Report	Deliver an inception report (up to 20 pages) outlining the planned	30/04/2026	10%

		<p>work approach, timelines, activities and review process.</p> <p>Include proposed approach, overview of desktop approach including interviews (number, people and format) and documents to be included in the review. Proposed country visits and information to be gathered and the approach to achieving this. The approach should be agreed with the WASH Hub Innovation Manager before other activities continue.</p>		
2	Deliverable 2: Technical Assessment/ Situational Analysis Report	<p>Review of current/ existing Data Integrator Tools and Drought Monitoring Systems, demonstrations, and scale readiness assessment</p> <ol style="list-style-type: none"> 1. Definition of the problem 2. Identification and comparison of other solutions that could have been applied. 3. Learnings for solution replication <p>Compile a single report outlining the learning and findings on the current status of the solution within the WASH Sector and UNICEF. The main report should be no more than 20 pages with annexes.</p>	31/05/2026	10%
3	Deliverable 3: Draft Scaling Strategy	Draft strategy including the vision for scale, scale model, and roadmap capturing both the Data integrator tool and the Drought Monitoring system.	30/06/2026	20%
4	Deliverable 4: Validation Workshop	Facilitation of internal and external stakeholder consultation (UNICEF, Government counterparts, partners, etc).	31/07/2026	10%
5	Deliverable 5: Final Scaling Strategy for the solution	<p>Outline a scaling strategy for the solution that includes:</p> <ul style="list-style-type: none"> • Scaling Strategy • Outline of deployment packages 	31/08/2026	30%

		<ul style="list-style-type: none"> Outline capacity development needs <p>This should be delivered in a way that is actionable by different actors and driven the WASH Hub.</p>		
6	Deliverable 6: Roadmap for drought prediction application and identified other use cases	Develop a use case catalogue outlining relevant use cases for the data integration tool. Provide a detailed drought prediction/early warning use case covering problem statement, data sources (satellite, in-situ, infrastructure), gaps addressed, and decision triggers showing how integrated data tool fits into systems.	18/09/26	10%
7	Deliverable 7: Final report	Final report of up to 20 pages with annexes that can be used for key audiences (to be defined in discussion with the WASH Hub), with supporting summary documents and presentation including final outline of deployment toolkit and supporting justification for the solution.	30/09/2026	10%

The consultant will have regular check in calls (at least twice a month) with the WASH Hub team.

To qualify as an advocate for every child you will have...

- An advanced degree in Business Development, ICTD, Service design, Systems thinking, AI systems, or other relevant digital fields.
 - *A first University Degree in a relevant field combined with 2 additional years of professional experience may be accepted in lieu of an Advanced University Degree.*
- Strong service design and systems thinking background, with at least 3+ years as a service designer/systems thinker and 8+ years overall in relevant business development, digital or design-led disciplines.
- Proven experience scaling digital innovations and managing cross-sector digital projects.
- Demonstrable experience of strategy development, knowledge management and strategic planning to scale innovation projects
- Experience handling, integrating, and interpreting climate, groundwater, or environmental datasets, plus familiarity with WASH sector digital tools and data systems.
- Strong stakeholder engagement, coordination and facilitation abilities, including working with diverse technical teams (for example within UNICEF: ICTD, OOI, DPAM, WASH, Supply) and leading complex, multi-stakeholder processes.
- Experience of working with both private sector and development actors in strategic project development and scaling of proven programmes /innovations/systems/policies
- Experience working in developing, fragile, or emergency contexts, and comfort engaging both government and private-sector innovation actors.

- Excellent communication and analytical skills, with the ability to translate technical insights into guidance, documentation, and scaling strategies
- Fluency in English, plus familiarity with tools like MS Office, PowerPoint, and Power BI.
- Knowledge of another official UN language (Arabic, Chinese, French, Russian or Spanish) or a local language is an asset.

Travel:

In the financial proposal, include travel costs for:

- 2 trips from your home to Copenhagen for five working days at a time, include Daily Subsistence Allowance (DSA) rate
- 1 trip to Angola for five working days, include DSA rate
- 1 trip to Madagascar for five working days, include DSA rate

All travel (in case of any) will be the most economical fare and reimbursement will be as per UNICEF policy, "As per UNICEF DFAM policy, payment is made against approved deliverables. No advance payment is allowed unless in exceptional circumstances against bank guarantee, subject to a maximum of 30 per cent of the total contract value in cases where advance purchases, for example for supplies or travel, may be necessary".

Payment details and further considerations

Payment of professional fees will be based on the submission of agreed deliverables. UNICEF reserves the right to withhold payment in case the deliverables submitted are not up to the required standard or in case of delays in submitting the deliverables on the part of the consultant.

How to apply:

- Interest applicants are required to submit a technical and financial proposal with all-inclusive fee. Please see the financial proposal template.
- Technical proposals should be no more than 10 pages (not including Annexes) and should outline how the consultant intends to approach the assignment.
- Financial proposals must include travel costs (economy class) and DSA, if travel is required as per TOR and any other estimated costs e.g. visa, travel/health insurance.
- **Applications without a technical and financial proposal will not be considered.**

The Technical Proposals will be evaluated against the following:		
REF	CATEGORY	POINTS
1.	Experience of the consultant <ul style="list-style-type: none"> • Minimum 8 years' experience in relevant business development, service design and systems thinking, digital or design-led disciplines. • Demonstrable experience of strategy development, knowledge management and strategic planning to scale innovation projects • Experience handling, integrating, and interpreting climate, groundwater, or environmental datasets, plus familiarity with WASH sector digital tools and data systems. • Strong stakeholder engagement, coordination and facilitation abilities, including working with diverse technical teams (for example within UNICEF: ICTD, OOI, DPAM, WASH, Supply) and leading complex, multi stakeholder processes. • Experience of working with both private sector and development actors in strategic project development and scaling of proven programmes /innovations/systems/policies 	45

	<ul style="list-style-type: none"> • Experience working in developing, fragile, or emergency contexts, and comfort engaging both government and private sector innovation actors. • Proven expertise in scaling innovations, digital solutions, or data systems in the development/ humanitarian sectors; 	
2.	Proposed Methodology and Approach (limited to 4 pages) that outlines how the consultant would: <ul style="list-style-type: none"> • Clear, robust, and feasible proposed methodology and workplan, showing strong understanding of the ToR, deliverables, risks, and pathways to delivering the scaling strategy. 	35
Total Technical (max 80)		
Only Proposals which receive a minimum of 60 points will be considered competitive.		
3.	Financial proposal	20
Total Financial (max 20)		
Total Overall (max 100)		

For every Child, you demonstrate...

UNICEF's values of Care, Respect, Integrity, Trust, Accountability, and Sustainability ([CRITAS](#)).

To view our competency framework, please visit [here](#).

UNICEF is here to serve the world's most disadvantaged children and our global workforce must reflect the diversity of those children. The UNICEF family is committed to include everyone, irrespective of their race/ethnicity, age, disability, gender identity, sexual orientation, religion, nationality, socio-economic background, or any other personal characteristic.

UNICEF offers reasonable accommodation for consultants/individual contractors with disabilities. This may include, for example, accessible software, travel assistance for missions or personal attendants. We encourage you to disclose your disability during your application in case you need reasonable accommodation during the selection process and afterwards in your assignment.

UNICEF has a zero-tolerance policy on conduct that is incompatible with the aims and objectives of the United Nations and UNICEF, including sexual exploitation and abuse, sexual harassment, abuse of authority and discrimination. UNICEF also adheres to strict child safeguarding principles. All selected candidates will be expected to adhere to these standards and principles and will therefore undergo rigorous reference and background checks. Background checks will include the verification of academic credential(s) and employment history. Selected candidates may be required to provide additional information to conduct a background check.

Remarks:

Only shortlisted candidates will be contacted and advance to the next stage of the selection process.

Individuals engaged under a consultancy or individual contract will not be considered "staff members" under the Staff Regulations and Rules of the United Nations and UNICEF's policies and procedures, and will not be entitled to benefits provided therein (such as leave entitlements and medical insurance coverage). Their conditions of service will be governed by their contract and the General Conditions of Contracts for the Services of Consultants and Individual Contractors. Consultants and individual

contractors are responsible for determining their tax liabilities and for the payment of any taxes and/or duties, in accordance with local or other applicable laws.

The selected candidate is solely responsible to ensure that the visa (applicable) and health insurance required to perform the duties of the contract are valid for the entire period of the contract. Selected candidates are subject to confirmation of fully-vaccinated status against SARS-CoV-2 (Covid-19) with a World Health Organization (WHO)-endorsed vaccine, which must be met prior to taking up the assignment. It does not apply to consultants who will work remotely and are not expected to work on or visit UNICEF premises, programme delivery locations or directly interact with communities UNICEF works with, nor to travel to perform functions for UNICEF for the duration of their consultancy contracts.